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DARDI & ASSOCIATES, PLLC 220 S. 6TH ST. SUITE 2000, U.S. BANK PLAZA MINNEAPOLIS, MN 55402				MARCHESCHEI, MICHAEL A
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte SUJEET KUMAR, HARIKLIA DRIS REITZ,  
XIANGXIN BI and NOBUYUKI KAMBE*

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Appeal 2009-002499  
Application 09/136,483  
Technology Center 1700

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Decided:<sup>1</sup> July 21, 2009

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Before BRADLEY R. GARRIS, BEVERLY A. FRANKLIN, and  
LINDA M. GAUDETTE, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 1-3, 5-8, 11-16, and 19-22 (Final Office Action, mailed Oct. 17, 2007). Claims 17 and 18, also pending, are allowed. (*Id.*) We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

#### STATEMENT OF THE CASE

The claimed invention is directed to highly uniform submicron aluminum oxide particles (claims 1 and 19) and to polishing compositions using the particles (claim 11). Claim 1 is illustrative of the subject matter on appeal, and is reproduced from the Claims Appendix to the Appeal Brief ("App. Br."), filed Mar. 20, 2008:

1. A collection of particles comprising aluminum oxide, the collection of particles having an average diameter of primary particles from about 5 nm to about 500 nm and less than about one in  $10^6$  particles have a diameter greater than about three times the average diameter of the collection of particles.

The Examiner relies on the following evidence to establish unpatentability (Paper 20080609):

Rostoker	5,389,194	Feb. 14, 1995
Farkas	6,001,730	Dec. 14, 1999
Shimizu	4,842,837	Jun. 27, 1989
Chiruvolu	09/969,025	Oct. 01, 2001 (filing date)

Appellants request review of the following grounds of rejection (App. Br. 6-7):

1. claims 1-3, 5-8, and 19-22 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as unpatentable over Rostoker; and

2. claims 11-16 under 35 U.S.C. § 103(a) as unpatentable over Rostoker in view of Farkas; and

3. claims 1-3, 5-8, and 19-22, provisionally, on the ground of nonstatutory obviousness-type double patenting over the claims of copending Application No. 09/969,025.

## ISSUES

We identify the following issues as dispositive of the Appeal:

Have Appellants produced sufficient evidence to rebut the presumption of operability of the Rostoker patent?

Have Appellants shown reversible error in the Examiner's determination that the ordinary artisan would have had a reasonable expectation of success in producing Appellants' claimed collection of particles?

We answer these questions in the affirmative.

## FINDINGS OF FACT ("FF")

1. The Examiner relies on Rostoker's claims and Example 3 for a teaching of Appellants' claimed collection of particles. (Examiner's Answer ("Ans."), mailed Jun. 4, 2008, 4-5.)

2. Appellants contend that Rostoker is not enabled because the ordinary artisan would not have known how to make a collection of particles having Appellants' claimed particle size distribution. (App. Br. 21-22.) Appellants rely, *inter alia*, on the Section 132 Declaration of Dr. Rajiv K. Singh ("Singh Dec.") to establish that, at the time of Appellants' invention, there was no known method of making the claimed particles. (*See e.g.*, Reply Brief ("Rep. Br."), filed Aug. 4, 2008, 4-5.)

3. As evidenced by his Declaration, Dr. Singh is an expert in the field of nano-particle science and technology and has been working in this field since at least 1989. (*See generally*, Singh Dec. ¶¶ 1-8 and attached Summary of Accomplishments; *see also*, Ans. 11 (conceding that Dr. Singh is an expert in the field).)

4. In describing the invention, Rostoker states: “[r]ecently, methods have been developed for controllably producing ultrafine-grained, or nanocrystalline, materials (typically, about 1-100 nm grain diameters).” (Col. 6, ll. 25-27.) However, the only “method of making nanocrystalline alpha alumina” explicitly identified and described by Rostoker is that of US 5,128,081 (“Siegel”) which Rostoker incorporates by reference. (Rostoker, col. 6, ll. 25-51.) Rostoker does not include any actual examples wherein Siegel’s method, or any other method, was used to produce the disclosed alpha alumina particles (e.g., the particles of Example 3). (*See generally*, Rostoker.)

5. Dr. Singh testified that “Siegel . . . does NOT describe the formation of submicron particles.” (Singh Dec. ¶ 10.) At the time of his Declaration (i.e., Dec. 2001), Dr. Singh also testified that he had “not seen materials comparable to the materials claimed” (Singh Dec. ¶ 14, first occurrence), and that other than Appellants’ process, he was not aware of any other methods of forming Appellants’ claimed particles (Singh Dec. ¶ 10; *see also*, ¶¶ 11-13 (discussing known processes)).

6. In response to Appellants’ arguments and evidence in support thereof, the Examiner maintains that “Appellants have not presented any evidence that would clearly show that no other methods were known to produce the taught particles.” (Ans. 13.) The Examiner relies on US

4,842,837 (“Shimizu”) as evidence of a known “method for forming silica articles [sic] of 100 nm or less.” (*Id.*) “[I]t is the examiners [sic] position that the skilled artisan would have appreciated that it is applicable to alumina particles, as well.” (*Id.*)

7. Shimizu is not positively recited in a ground of rejection. The Answer does not include a finding that Shimizu discloses one of the recently developed methods referred to in Rostoker (*supra* FF 4). (*See generally, Ans.*) Nor does the Answer include a finding that Shimizu’s method is capable of producing particles having the particle size distribution defined in the appealed claims. (*Id.*)

8. Appellants maintain that “[t]he Patent Office has presented absolutely no legally or factually relevant counter evidence.” (Rep. Br. 4.)

#### PRINCIPLES OF LAW

In order to anticipate, a prior art reference must not only disclose all of the limitations of the claimed invention, but must also be enabled. *Elan Pharm., Inc. v. Mayo Found.*, 346 F.3d 1051, 1054 (Fed. Cir. 2003) (citations omitted). A reference is enabled when its disclosures are sufficient to allow one of skill in the art to make and use the claimed invention. *Id.*; *see also, In re Gleave*, 560 F.3d 1331, 1336 (Fed. Cir. 2009). “[A]nticipation is a question of fact,” *Id.* at 1334-35, but “[w]hether a prior art reference is enabling is a question of law based upon underlying factual findings,” *Id.* (quoting *Minn. Mining & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1301 (Fed. Cir. 2002)).

During “prosecution the examiner is entitled to reject application claims as anticipated by a prior art patent without conducting an inquiry into whether or not that patent is enabled.” *Amgen Inc. v. Hoechst Marion*

*Roussel, Inc.*, 314 F.3d 1313, 1355 (Fed. Cir. 2003). When the Examiner cites a patent disclosure which expressly anticipates an applicant's claimed invention, the burden is on the applicant to rebut the presumption of operability of the prior art patent by a preponderance of the evidence. *Id.* (citing *In re Sasse*, 629 F.2d 675, 681 (CCPA 1980)).

Inoperability of a patent can be established by demonstrating that the invention disclosed therein cannot be made without undue experimentation. See *Elan*, 346 F.3d 1055 (“It is insufficient to name or describe the desired subject matter, if it cannot be produced without undue experimentation.”); *In re Borst*, 345 F.2d 851, 855 (1962) (“[T]he disclosure must be such as will give possession of the invention to the person of ordinary skill. Even the act of publication or the fiction of constructive reduction to practice will not suffice if the disclosure does not meet this standard.”); but see *In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985) (explaining that enablement can be established if the ordinary artisan could have made the claimed invention by combining the patent’s description of the invention with his own knowledge to make the claimed invention).

The factors relevant to whether experimentation is undue are discussed in, e.g., *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988), and include the quantity of experimentation that was actually needed, the amount of guidance provided in the reference, the presence or absence of actual examples of the experimental procedure, the state of the knowledge already available concerning the subject matter at issue, and the predictability or unpredictability in the specific area of science or technology.

*Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1085 (Fed. Cir. 2008).

“[N]on-enablement does not preclude a finding of obviousness.” *Amgen*, 314 F.3d at 1357. Rather, in considering the question of the obviousness, we are guided by the basic principle that the question under 35 U.S.C. § 103 is not merely what the references expressly teach, but what they would have suggested to one of ordinary skill in the art at the time of the invention. *See Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807-08 (Fed. Cir. 1989); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not . . . that the claimed invention must be expressly suggested in any one or all of the references.”). “For obviousness under § 103, all that is required is a reasonable expectation of success.” *In re O’Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988) (citations omitted).

#### ANALYSIS

*Rejection of claims 1-3, 5-8, and 19-22 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as unpatentable over Rostoker  
and*

*Rejection of claims 11-16 under 35 U.S.C. § 103(a) as unpatentable over Rostoker in view of Farkas*

Having considered the Examiner’s and Appellants’ respective arguments and evidence in light of the factors set forth in *In re Wands*, 858 F.2d at 737, we determine that Appellants have rebutted the presumption of operability of the Rostoker patent by a preponderance of the evidence. Dr. Singh, an expert in the field (FF 3), testified that the ordinary artisan would not have been able to produce Appellants’ claimed particle collection using the only method specifically identified in Rostoker, i.e., the Siegel method (FF 5). The Examiner has not specifically identified another method capable of producing particles having the claimed distributions (FF 1, 6, 7), and

Rostoker is devoid of any working examples showing actual preparation of the disclosed particles (FF 4). In contrast, Appellants have produced persuasive evidence, i.e., the testimony of Dr. Singh (*see* FF 2, 3), that the ordinary artisan would not have been able to produce Appellants' claimed particle collection using known methods available at the time of Rostoker's invention (FF 5).

Because Rostoker is inoperable, it cannot anticipate. Accordingly, we do not sustain the rejection of claims 1-3, 5-8, and 19-22 under 35 U.S.C. § 102(b) as anticipated by Rostoker.

Turning now to the rejections under 35 U.S.C. § 103(a), we note that a reference which is non-enabled may still be relied upon to establish obviousness. In this case, however, we are in agreement with Appellants (*see* Rep. Br. 2) that the evidence of record is insufficient to support the Examiner's obviousness determinations. For the reasons discussed above, we find that the ordinary artisan would not have had a reasonable expectation of success in producing Appellants' claimed particle collection. Therefore, we do not sustain the § 103(a) rejections of claims 1-3, 5-8, and 19-22 as unpatentable over Rostoker and claims 11-16 as unpatentable over Rostoker in view of Farkas.

*Provisional rejection of claims 1-3, 5-8, and 19-22 on the ground of nonstatutory obviousness-type double patenting over the claims of copending Application No. 09/969,025*

A notice of abandonment of Application No. 09/969,025 was mailed on Jul. 10, 2009. Accordingly, we procedurally reverse this ground of rejection.

Appeal 2009-002499  
Application 09/136,483

**CONCLUSION**

The decision of the Examiner rejecting claims 1-3, 5-8, 11-16, and 19-22 is reversed.

**REVERSED**

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